

Unit 1: Ecology Guided Notes
Honors Biology

Name: _____

Date: _____ Per: _____

Characteristics and Organization of Life

❖ Biology

• Biology- _____

• Ecology- _____

❖ Characteristics of Life

• Living things are _____

• Living things _____

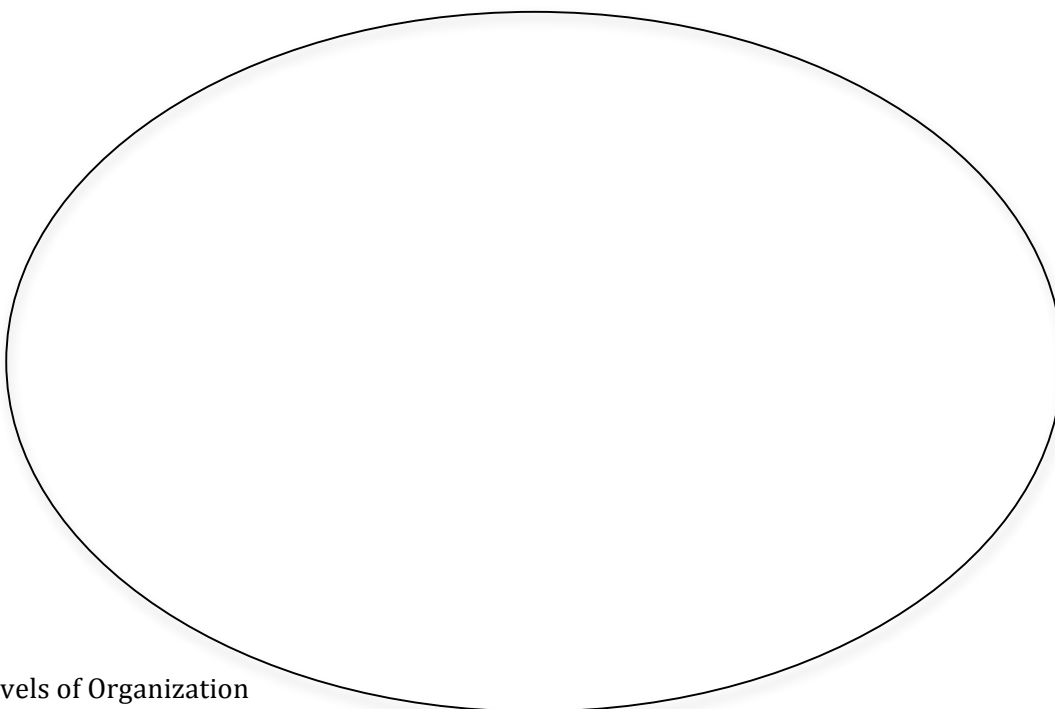
• Living things _____

• Living things _____

• Living things _____

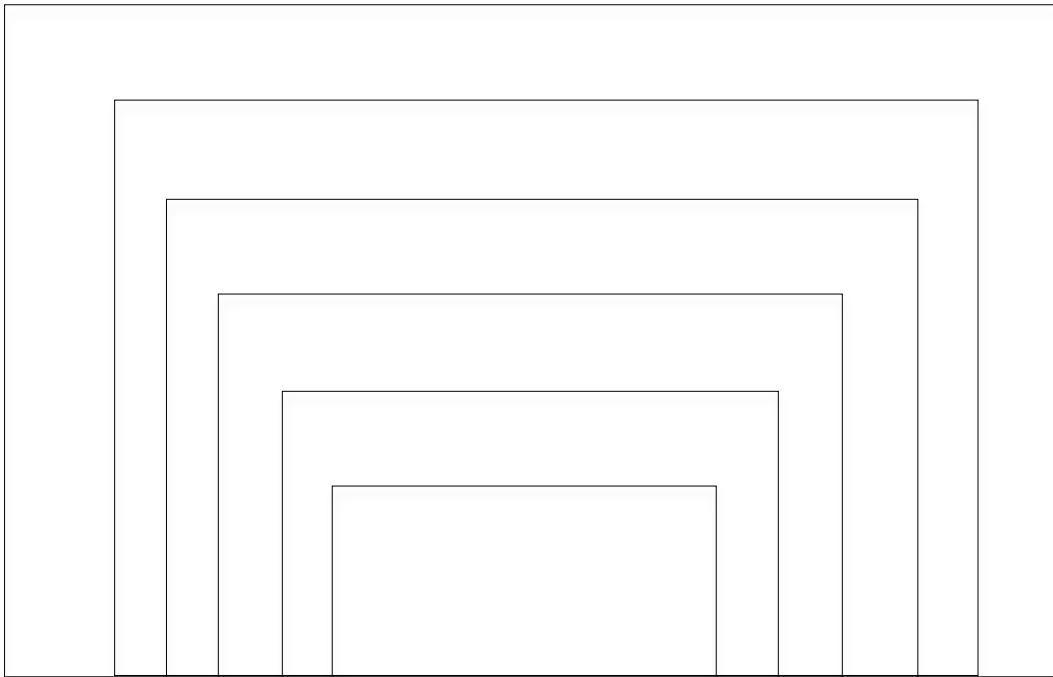
• Living things _____

• Living things _____



❖ Levels of Organization

- Organism- _____
- Population- _____
 - Species- _____
- Community- _____
- Ecosystem- _____
- Biome- _____
- Biosphere- _____



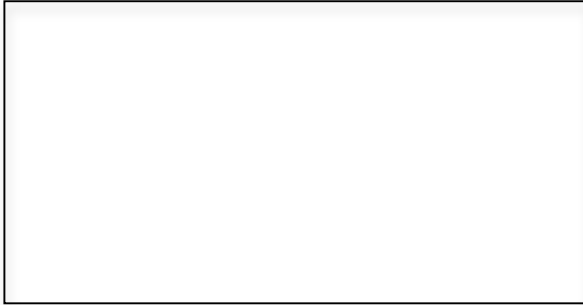
❖ Biotic vs. Abiotic Factors

- Biotic Factors

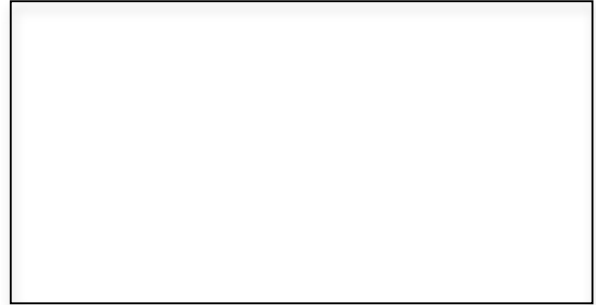
- Biotic factors are _____
- Examples: _____

- Abiotic Factors

- Abiotic factors are _____
- Examples: _____



Biotic



Abiotic

❖ Biodiversity

- Biodiversity- _____
- Contains two components:
 - Species richness- _____
 - Species abundance- _____
- Biodiversity is a measure of the _____



Less Diverse Ecosystem + Disease



More Diverse Ecosystem + Disease

❖ Biodiversity is Beneficial to Humans

- _____
- _____
- _____

❖ Threats to Biodiversity

- _____
- _____
- _____
- _____

❖ Organic vs. Inorganic Matter

- Inorganic Matter

- Includes _____

- Contain only _____
- Inorganic compounds usually do not contain _____

- Organic Matter

- Includes _____

- Contain _____
- Organic compounds always include a lot of _____
- Carbon compounds form the _____

❖ Autotrophs

- Also called _____
- Use energy from the environment to _____

❖ Two Kinds of Autotrophs

- Photosynthetic Autotrophs

- Use _____
- Photosynthesis- process of using _____

- Photosynthetic organisms need access to _____
- Live on _____
- Examples: _____

- Chemosynthetic Autotrophs

- Use _____
- Chemosynthesis- using the _____

- Chemosynthetic organisms do not need access to _____
- Live in the _____
- Examples: _____

❖ Heterotrophs

- Also called _____
- All heterotrophs rely on _____

❖ Five Kinds of Heterotrophs

- Herbivores
 - Obtain energy by eating _____
 - Examples: _____
- Carnivores
 - Obtain energy by eating _____
 - Examples: _____
- Omnivores
 - Obtain energy by eating _____
 - Examples: _____
- Detritivores
 - Obtain energy by eating _____
 - Examples: _____
- Decomposers
 - Obtain energy by _____

 - Examples: _____

❖ Feeding Relationships

- Energy in an ecosystem flows in only one direction: _____

- Arrows in a feeding relationship diagram always _____

❖ Food Chains

- Food chains are a series of steps in which _____

- Example of a Food Chain:

❖ Food Webs

- Food webs link multiple _____
- Example of a Food Web:

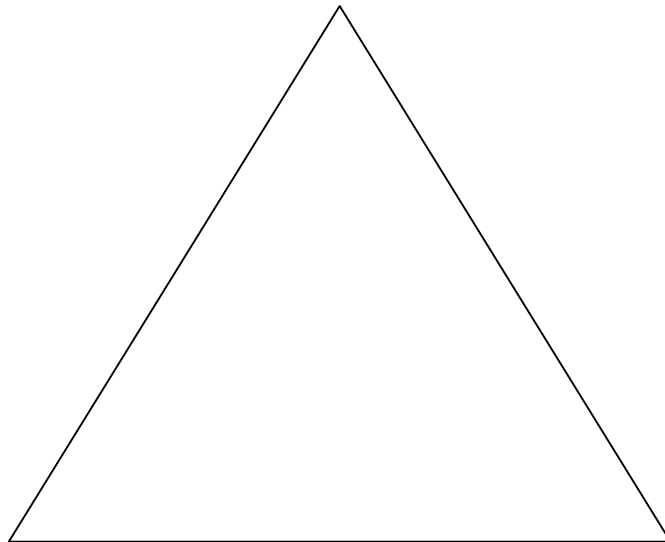
❖ Trophic Levels

- Trophic Levels- _____
- Producers- _____
 - Always _____
- Primary Consumers
 - The _____
 - _____
 - Can be abbreviated: _____
- Secondary Consumers
 - The _____
 - _____
 - Can be abbreviated: _____
- Tertiary Consumers
 - The _____
 - Almost always exclusively _____
 - Can be abbreviated: _____
 - Usually the highest level possible due to incomplete energy transfer from one trophic level to the next

❖ Energy Pyramids

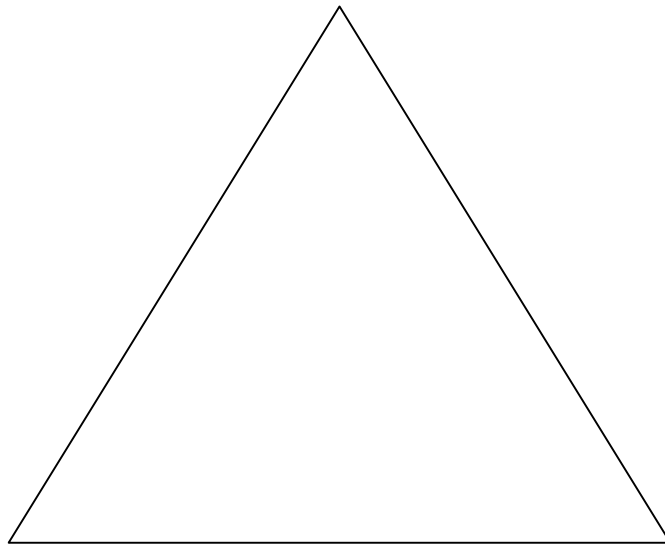
- Energy pyramids represent the _____
- Only about 10% of the energy available within one trophic level is transferred to organisms at the next trophic level because the _____

- Uses of energy include:
 - _____
 - _____
 - _____
 - _____



❖ Biomass Pyramid

- Biomass is the total amount of _____
- Biomass is expressed in units of _____
- Biomass represents the amount of _____
- Biomass like energy usually decreases by _____



❖ Predator-Prey Interactions

- Predation- _____
- Predator- _____
- Prey- _____
- Example: _____

❖ Symbiosis

- Any relationship in which _____
- Three types of symbiotic relationships:
 - Mutualism
 - _____
 - Example: _____
 - Commensalism
 - One organism _____
 - Example: _____
 - Parasitism
 - One organism _____
 - The _____
 - The _____
 - Example: _____

❖ Niches

- A niche is the _____

- _____
- A niche includes a combination of biotic and abiotic factors such as:
 - Its _____
 - The range of _____
 - The type _____
 - How it _____
 - Its _____
 - When it is _____
 - How and when it _____

❖ Invasive Species

- Invasive species are organisms that _____
- They are moved into an area by _____

- Because they have _____
- They are a threat to the biodiversity of the area because _____

- Examples: _____

❖ Ecological Succession

- A series of _____
- Ecosystems are constantly _____

❖ Primary Succession

- Occurs on _____
- Pioneer species
 - The _____
 - Usually a lichen
 - A _____
 - _____
 - _____
- Eventually once enough soil and organic matter has accumulated that _____

❖ Secondary Succession

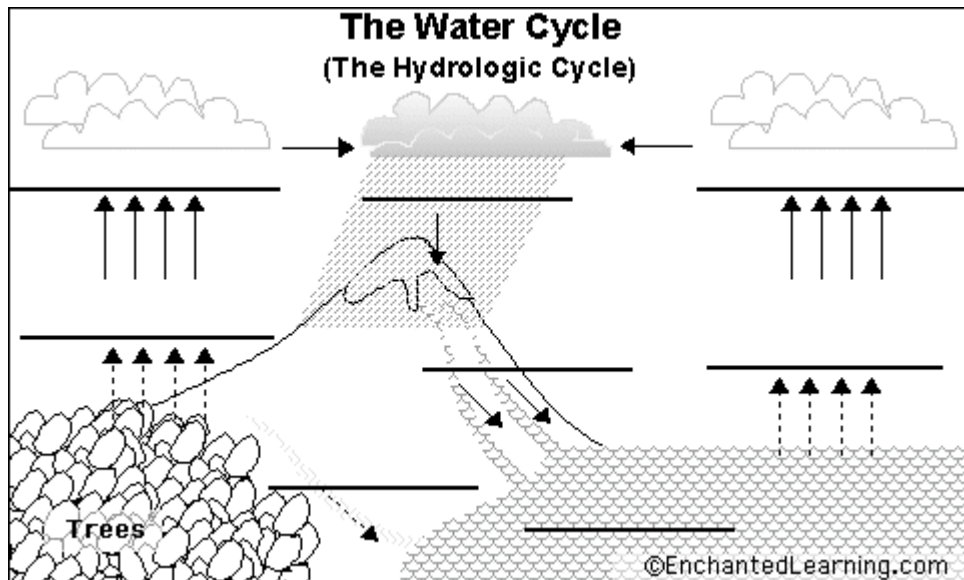
- Occurs when natural events such as _____

❖ Biogeochemical Cycles

- Unlike the one way flow of energy, _____
 - Matter is cycled between _____
- _____

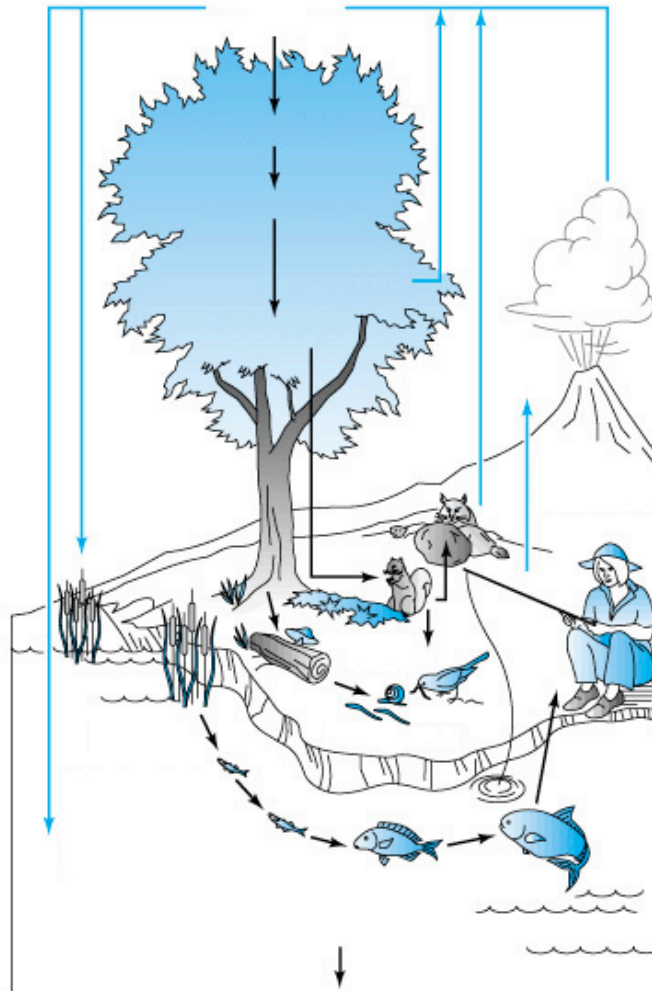
❖ The Water Cycle

- Evaporation- _____
- Transpiration- _____
- Condensation- _____
- Precipitation- _____
- Runoff- _____



❖ The Carbon Cycle

- Photosynthesis- _____
- Respiration- _____
- Decomposition- _____



❖ The Nitrogen Cycle

- Nitrogen Fixation- _____
- Nitrogen moves from _____

- Decomposers _____